REMARKS

Several editorial corrections have been made to the specification. Claims 1, 12, and 16 have been amended to correct typographical errors, and Claim 4 has been amended to more clearly demonstrate that it pertains to the third limitation of Claim 1. No new matter has been introduced with these corrections or amendments. Claims 1 - 17 remain in the application.

I.   Drawing Corrections

Proposed replacement drawings for Figs. 2, 5, and 10 are submitted herewith. See "Amendments to the Drawings", above, for a description of the corrections made in these substitute drawings. No new matter is introduced with these drawing corrections.

II.   Objection to the Specification

Page 2 of the Office Action dated October 4, 2003 (hereinafter, "the Office Action") states that the specification is objected to because of informalities regarding serial numbers of related applications. Appropriate correction has been made herein, and the Examiner is requested to withdraw this objection.

III.   Rejection Under 35 U.S.C. §102(e)

Page 2 of the Office Action states that Claims 1, 2 (stated as "12" in the Office Action), 4 - 8, 10 - 12, and 16 are rejected under 35 U.S.C. §102(e) as being unpatentable over U. S. Patent 6,587,782 to Nocek et al. This rejection is respectfully traversed.

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Nocek refers to retrieving data from a database where data that may include intersection data is (already) stored. Applicants' independent Claims 1, 12, and 16, by contrast, specify limitations whereby intersections are <u>determined</u>. See, for example, col. 4, lines 52 - 59, where Nocek teaches that "... map database 62 <u>includes</u> node data and segment data. ... Node data represent physical locations ... such as roadway intersections ..." (emphasis added). That is, the node/intersection information is <u>already present</u> in the database used by Nocek.

In another discussion of the "nodes", col. 6, lines 51 - 57 state that the nodes "correspond to intersections at the ends of the road portion". However, Nocek has no teaching of how the nodes (where the nodes may represent intersections) are <u>originally</u> determined. Note also that col. 2, lines 54 - 57 state that a navigation system "uses" (as opposed to creates) geographic data, and col. 4, lines 32 - 33 discuss obtaining the geographic data from a commercial source.

Obtaining intersection data from a database is distinct from Applicants' independent Claims 1, 12, and 16, which specify limitations of creating (i.e., "determin[ing]" and "storing", to use terms from Applicants' independent claims) intersection data. Applicants therefore respectfully submit that Nocek fails to teach limitations of their independent claims, and request that the §102 rejection be withdrawn.

IV. <u>Rejection Under 35 U.S.C. §103(a)</u>

Page 5 of the Office Action states that Claims 3, 13, and 14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Nocek in view of U. S. Patent 6,249,740 to Ito et al. This rejection is respectfully traversed.

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As noted above, Nocek does not teach determining intersections. Ito also does not teach this limitation of Applicants' invention, and Ito therefore cannot be combined with Nocek to render Applicants' claimed invention unpatentable. The Examiner is therefore respectfully requested to withdraw the §103(a) rejection.
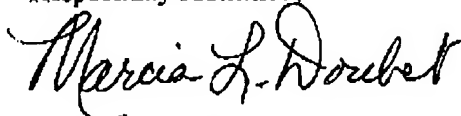
V.   Allowable Subject Matter

Page 6 of the Office Action states that Claims 9, 15, and 17 would be allowable if rewritten in independent form to include the limitations of the base claims and any intervening claims. As discussed above, Applicants respectfully submit that their independent claims are patentable over the references, and therefore these dependent claims are deemed patentable as currently presented.

VI.   Conclusion

Applicants respectfully request reconsideration of the pending rejected claims, withdrawal of all presently outstanding objections and rejections, and allowance of all claims at an early date.

Respectfully submitted,

Marcia L. Doubet
Attorney for Applicants
Reg. No. 40,999

Correspondence Address: Cust. Nbr. 25260
Phone: 407-343-7586
Fax: 407-343-7587

Attachments: Replacement Sheets (3)

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FIG. 2

200

Intersection Table 210

inter_id	street_id	intersect_id (stored as text string)	intersect_pt (multiple pts)

City Table 220

city_id	state_id	name	envelope	polygon

State Table 230

state_id	name	envelope	polygon

Address Table 240

addr_id	address	street_id	city_id	state_id	zip_id	PT<x,y>

Street Table 250

street_id	start_Pt	name	envelope	linestring	PointZM

Points of Interest 270

rid	type	name	phone

Zip code Table 260

zip_id	city_id	state_id	zipcode	envelope	polygon

FIG. 5
Minor Geometry Tables

Address Table   *500*

addr_id	address	street_id	city	state	zipcode	PT<x,y>
1	123 High House Rd	123	Apex	NC	27502	<35.9,78.2>
2	123 Hudson Rd	456	Raleigh	NC	28971	<34.567,78.3>
3	123 Davis Dr	789	Cary	NC	27676	<45.789,78.9

Street Table   *530*

street_id	start_Pt	name	envelope	linestring	PointZM
123	<35.8,67.9>	High House Rd	(bounding box)	constructed when address inserted into table	<1,3,1,100> x=state_id y=city_id z=zip_id m=density point
456	<35.67,67.85>	Hudson Rd	b.b		<1,1,5,1>
789	<35.77,67.99>	Davis Dr	b.b		<1,2,6,1>

Intersection Table   *560*

inter_id	street_id	intersect_id (stored as text string)	intersect_pt (multiple pts)
1	123	456	<35.66,78.92>
2	456	123,789	<35.66,78.92> <36.88,78.92>
3	789	456	<36.88,78.92>

FIG. 10

Use Street_id to index into Street table   **1000**

1005
Found an entry?

No → Create new record for Street table   **1010**

Insert hashed Street_id into Street_id column as index/key   **1015**

Insert (x,y) coordinates of current address into start_Pt column   **1020**

Set bounding box entry in Envelope column to (x,y) point   **1025**

Set Linestring column to (x,y) point   **1030**

Set PointZM column to <state,city,zip,1>   **1035**

Yes → Add (x,y) coordinates of current address to Linestring column   **1050**

Update Envelope column to represent bounding box of new Linestring   **1055**

1060
(x,y) less than current Start_Pt?

Yes → Replace Start_Pt with this (x,y)   **1065**

No

Update PointZM by incrementing density value   **1070**

Return   **1080**